GE <mark>Lighting</mark>

Installation Instructions

Lighting Controls

LightSweep Retrofit Kit For 24 Relay Legacy Panels CLCRET24





DESCRIPTION

This instruction sheet is intended to guide an installer through the process of converting a GE Lighting Control panel from it's original configuration to use the new GE LightSweep modular control components.

The RINTERxx24 series of interiors is the component that provides functionality for up to 24 relays to be controlled in the Centralized Lighting Control System Relay Panel. The complete relay panel assembly will include the following:

- 1. Tub (RTUB24)
- 2. Interior (RINTERxx24)
- 3. Power Supply (RPWRxxx)
- 4. Cover (RCOV24xx)

This instruction sheet will describe:

- 1. Removal of existing panel control components
- 2. Installation of new interface hardware
- 3. Reconnection of relays and low voltage wiring



BEFORE YOU BEGIN Read these instructions completely and carefully.

RISK OF ELECTRIC SHOCK

TURN OFF POWER BEFORE SERVICING INSTALL IN ACCORDANCE WITH NATIONAL ELECTRIC CODE

CAUTION: Make sure all power is off before wiring. Do not energize wiring until the unit is fully assembled. Conform to all applicable codes.



imagination at work

If you have questions, call GE Lighting Control Service at: 1-877-584-2685 (LTG-CNTL) in the USA and Canada.

PREPARATION

Typical items required to complete retrofit

- Philips head screwdriver
- Flathead screwdriver
- Small flathead screwdriver (1/8")
- Hex nut driver 5/16"
- Hex nut driver 1/4"
- Wire cutter
- Wire stripper (small gauge wire)
- Small gauge signal wire (18 22 AWG, 300V)
- Pliers
- Wire nuts
- Electrical tape
- Wire markers
- Work light

Assure that your kit is complete

- (2) Relay Module adapter plates,
- (1) Group Switch Module adapter plate,
- (1) Tub adapter plate,
- (16) screws,
- (16) lock washers,
- (2) long jumpers

Assure that you have all required modules

- (1) Group Switch Module,
- One Relay Module for every <u>six</u> relays,
- And optionally, either (1) Network Scheduler or (1)
 BACnet module







Group Switch Module

Relay Module

NOTICE! Before Disconnecting Power

<u>Using your lighting control panel, turn on any and all lighting circuits that may be</u> <u>needed immediately following the installation</u>. During the installation, all panel functionality will be lost. Latching relays switched to the ON position will be maintained throughout the installation process. Therefore, when panel power is restored, these lights will turn back on immediately.

IDENTIFY YOUR SYSTEM

Note: System configurations may Vary by: • Number of installed relays,

- Number of connected switch inputs,
- · Number of data-line network connections,
- Type of cover/door

Using the features shown, identify the panel type:

- If your panel is a ProSys, turn to the **next page**,
- If your panel is a Level III , turn to the page 9.

(Optional) DIN-Rail Mounted Clock



ProSys Panel

Row of Pushbuttons

Metal Cover Plate



Level III Panel

Push-Terminal Inputs

Rectangular Metal Enclosure

PROSYS RETROFIT

Note: System Configurations May Vary by:

- Number of installed relays
- Number of connected switch inputs
- Number of data-line network connections
- Type of cover (door)

Depending on your specific type of cover

- An "SL" cover allows access to both the Class 2 Low Voltage wiring area and Class 1 wiring area.
- Flush mount covers restricts access to only the Class 2 Low Voltage wiring area. The removal of the entire cover may be required to complete the retrofit.

Typical items required to complete retrofit

- Philips head screwdriver
- Flathead screwdriver
- Small flathead screwdriver (1/8")
- Hex nut driver 1/4"
- Wire cutter
- Wire stripper (small gauge wire)
- Small gauge signal wire (18 22 AWG, 300V)
- Pliers
- Wire nuts
- Electrical tape
- Wire markers
- Work light



ProSys Panel

DISCONNECT POWER

RISK OF ELECTRIC SHOCK

TURN OFF POWER BEFORE SERVICING INSTALL IN ACCORDANCE WITH NATIONAL ELECTRIC CODE CAUTION: Make sure all power is off before wiring. Do not energize wiring until the unit is fully assembled. Conform to all applicable codes.

Turn off live power to the panel before servicing. A risk of electric shock will otherwise exist once the cover is removed from the panel. Note: Any lighting circuits you want to have ON immediately following the retrofit should be turned ON prior to disconnecting power.

Set switch to OFF position

As an additional precaution, turn off the power supply switch on the ProSys control board. This will prevent any damage to the printed circuit board components if power should need to be unexpectedly restored before retrofit is completed.



POWER SUPPLY

Disconnect power supply connector from Printed Circuit Board

- Carefully unplug connector from PC Board
- Do not cut or damage the wire during removal
- This same cable will be used to power your new replacement control gear.



Power Supply Connection

CLOCK REMOVAL

If your panel is equipped with a DIN-Rail mounted clock, disconnect and remove the clock from the panel

- First, disconnect the cable from the panel,
- Then pull UP on the tab on top of the clock
- · Remove the clock assembly from the panel



SWITCH CONNECTIONS

If applicable, label & disconnect low voltage switch inputs

- · Label switch-inputs so that they can be identified later
- Disconnect the wires from the terminal blocks using 1/8" slotted screwdriver





NETWORK CONNECTIONS

If your panel is so equipped, disconnect dataline network connections

Note!

Dataline network cable may not be used with the new modular panels system. Any existing dataline connections must be replaced with compatible wiring with. Use CAT 5 (or higher) UTP, 4-pair, 24AWG cable.



Dataline Connection

REMOVE COVER PLATE

Locate and remove the $\underline{\mathrm{five}}$ screws securing the metal cover plate to the tub

- Use Phillips Head Screwdriver
- Remove the lower screws first
- Remove & discard the pan head screws and lock washers



Metal Cover Plate



DISCONNECT ALL RELAYS

After removing the Metal Cover Plate, disconnect all relays

- Carefully pull relay connectors away from the PC Board
- Disconnect relays from both the left & right side of the panel



REMOVE THE PC BOARD

Locate and remove 10 <u>screws</u> and 3 <u>standoffs</u> that secure the printed circuit board to the tub

- Remove the standoffs first, using a 1/4" hex nut driver
- Then, starting at the bottom, use Phillips head screwdriver to remove screws
- · Carefully remove and discard each screw and lock washer
- Removing the top screws last, hold the PC board with your opposite hand
- Lift Printed Circuit Board from panel.
- Discard according to local laws and regulations







Printed Circuit Board

REMOVE REMAINING STANDOFFS

Locate and remove the two remaining standoffs near the bottom of your panel

- Use 1/4" nut driver to remove standoffs at the bottom of the panel
- Discard standoffs





INSPECT TUB

The tub should be checked to make sure that it is in good condition, and free of debris or other obstructions before continuing with the retrofit.

If everything is in order, you are now ready to proceed with the installation of the retrofit kit.

Skip to pg. 19



LEVEL III RETROFIT

Note: System Configurations May Vary by:

- Number of installed relays
- Number of connected switch inputs
- Number of data-line network connections
- Type of cover (door)

Depending on your specific type of cover

- An "SL" cover allows access to both the Class 2 Low Voltage wiring area and Class 1 wiring area.
- Flush mount covers restricts access to only the Class 2 Low Voltage wiring area. The removal of the entire cover may be required to complete the retrofit.

Typical items required to complete retrofit

- Philips head screwdriver
- Flathead screwdriver
- Small flathead screwdriver (1/8")
- Hex nut driver 5/16"
- Wire cutter
- Wire stripper (small gauge wire)
- Small gauge signal wire (18 22 AWG, 300V)
- Pliers
- Wire nuts
- Electrical tape
- Wire markers
- Work light



Level III Panel

DISCONNECT POWER

RISK OF ELECTRIC SHOCK

TURN OFF POWER BEFORE SERVICING INSTALL IN ACCORDANCE WITH NATIONAL ELECTRIC CODE

Turn off live power to the panel before servicing. A risk of electric shock will otherwise exist once the cover is removed from the panel. Note: Any lighting circuits you want to have ON immediately following the retrofit should be turned ON prior to disconnecting power. CAUTION: Make sure all power is off before wiring. Do not energize wiring until the unit is fully assembled. Conform to all applicable codes.

LOW VOLTAGE WIRING

Label Low Voltage Wiring

- It is recommended that all low voltage wiring be labeled
- Label relays switch inputs, Master Switches, Programmable System Switches and Auxiliary connections
- Individual relay connectors do not need to be labeled. A label on the side of the interior indicates relay location

Note!

Dataline network cable may not be used with the new modular panels system. Any existing dataline connections must be replaced with compatible wiring with. Use CAT 5 (or higher) UTP, 4-pair, 24AWG cable.







Label Low Voltage Wire

Disconnect Low Voltage Wiring

- Wires are attached with quick connect terminals
- Pull straight back by hand or pliers if necessary
- Move/tuck wires out of way this will aid in the removal of printed circuit board in future step





Low Voltage Wire removal

COVER REMOVAL

Locate Metal Cover

- The metal cover is located at the bottom of the interior
- The cover is held in place by four captive screws
- The cover protects several plug-in printed circuit cards



Metal Cover

Remove Metal Cover

- Unscrew the four captive screws holding the cover
- Remove cover by pulling in an outward direction



Metal Cover Removal

DISCONNECT CLASS 2 POWER

Locate/Remove Power

- Class 2 power connection to the main printed circuit board is located beneath the bottom plug-in printed circuit card
- Grasp the connector (<u>not</u> the wires) and pull outward to disconnect



Class 2 Power Removal

PLUG-IN CARD REMOVAL

Removal of Plug-In Printed Circuit Cards

- Slide card ejectors "outward"
- Grasp plug-in printed circuit card and pull outward
- Plug-in printed circuit cards will slide on card guides in metal brackets





Card Ejectors

Remove Top Plug-in Printed Circuit Card

- Remove the top most plug-in Printed Circuit Card
- Discard according to local laws and regulations



Top Plug-In Card

RELAYS 13-24 / PSS 4,5,5

Middle Plug-In Card



Bottom Plug-In Card

Remove Middle Plug-in Printed Circuit Card

- Remove the middle plug-in Printed Circuit Card
- · Discard according to local laws and regulations

Remove Bottom Plug-in Printed Circuit Card

- Remove the bottom plug-in Printed Circuit Card
- Discard according to local laws and regulations

DISCONNECT RELAY CONNECTIONS

Relay Connectors

- Relays are connected to printed circuit board with connectors
- Grasp the connector (<u>not</u> the wires) and pull outward to disconnect
- Repeat for all relays connected to printed circuit board



Relay Connection



All Relays Disconnected

PRINTED CIRCUIT BOARD SCREW LOCATION

Screw Location

- Screw location (16 total) are circled below
- <u>Note</u>: remove top screws LAST

Remove these 3 screw Last



SCREW REMOVAL

Removal of Screws Securing Main Printed Circuit Board

- Remove all but top three screws securing printed circuit board to sheet metal interior
- <u>NOTE</u>: the top three screws should be done last refer to previous page



Screw removal

Remove top right screw

Remove the top right screw next



Top Right Screw



Top Left Screw

Remove top left screw

- Remove the top left screw next
- Printed circuit board will now be held by the last remaining screw

LAST SCREW/PRINTED CIRCUIT BOARD REMOVAL

Last Screw Removal

- Hold bottom of printed circuit board
- Remove top middle screw



Top Middle Screw

Printed Circuit Board Removal

- Clear any wires or relay connectors from surface of printed circuit board
- Grasp printed circuit board
- Tilt and pull outward from the sheet metal interior <u>NOTE</u>: take care to avoid damage to connectors or wires for relay and power supply connections
- · Discard according to local laws and regulations



Printed Circuit Board Removal

BRACKET REMOVAL

Remove Right bracket/card guide

- Use 5/16" hex nut driver to remove two nuts
- Lift bracket outward to remove from sheet metal interior





Right Bracket Removal

Loosen Left bracket/card guide

- Use 5/16" hex nut driver to remove two nuts
- Support bracket



Loosen Left Bracket

Removal of Left bracket/card guide

- Carefully guide power supply connector through opening in bracket – <u>NOTE</u>: take care to avoid damage to connector or wires for power supply connection
- Lift bracket outward to remove from sheet metal interior



Power Supply Connector

INSPECT TUB

The tub should be checked to make sure that it is in good condition, and free of debris or other obstructions before continuing with the retrofit.

If everything is in order, you are now ready to proceed with the installation of the retrofit kit.



24 INTERIOR RETROFIT KIT

WARNING

RISK OF ELECTRIC SHOCK

TURN OFF POWER BEFORE SERVICING INSTALL IN ACCORDANCE WITH NATIONAL ELECTRIC CODE

Note: System Configurations May Vary by:

- Number of installed relays
- Number of connected switch inputs
- Number of data-line network connections
- Type of cover (door)

Typical items required to complete retrofit

- Philips head screwdriver
- Small flathead screwdriver (1/8")
- Wire cutter
- Wire stripper (small gauge wire)
- Small gauge signal wire (18 22 AWG, 300V)
- Wire nuts
- Electrical tape
- Wire markers
- Work light



Retrofit Kit



INSTALL TUB ADAPTER PLATE

Installation of Tub Adapter Plate

- The Tub adapter plate is secured with 4 screws see circled holes in photo for location
- NOTE: Use lower holes at bottom of plate



Use lower holes during installation

- Orient plate as shown in photo tilt plate at a an angle to slide under end of relays
- Flatten out plate and slide under relays on opposite side of panel slide up into position





Plate orientation

- Insert screw/lock washer in upper right corner of plate do not fully tighten at this time
- Insert screw/lock washer in upper left corner of plate do not fully tighten at this time
- Insert remaining two screws/lock washers into plate
- · Completely tighten all four screws





Securing Plate



INSTALL RELAY MODULE ADAPTER PLATES

Installation of Upper Relay Module Adapter Plate

- The Relay Module adapter plate is secured with 4 screws
- <u>NOTE:</u> For proper orientation, the arrow pointing up should be labeled "LEFT RELAY MODULE"



Labeled: "LEFT RELAY PLATE"

Relay Module Adapter Plate

- Orient plate with "LEFT RELAY MODULE" wording on the left side
- Start in open area below relays
- Slide plate upwards under end of relays
- Align holes in plate with top four standoffs in Tub Adapter Plate







Plate Alignment

- Insert screw/lock washer in upper left corner of plate do not fully tighten at this time
- Insert screw/lock washer in upper right corner of plate do not fully tighten at this time
- Insert remaining two screws/lock washers into plate
- Completely tighten all four screws





Securing Plate

INSTALL RELAY MODULE ADAPTER PLATES

Installation of Lower Relay Module Adapter Plate

- The Relay Module adapter plate is secured with 4 screws
- <u>NOTE:</u> For proper orientation, the arrow pointing up should be labeled "LEFT RELAY MODULE"



Labeled: "LEFT RELAY PLATE"

Relay Module Adapter Plate

- Orient plate with "LEFT RELAY MODULE" wording on the left side
- Start in open area below relays
- Slide plate upwards under end of relays
- Align holes in plate with bottom four standoffs in Tub Adapter Plate





- Insert screw/lock washer in upper right corner of plate do not fully tighten at this time
- Insert screw/lock washer in lower left corner of plate do not fully tighten at this time
- Insert remaining two screws/lock washers into plate
- Completely tighten all four screws





Securing Plate

INSTALL GROUP SWITCH MODULE ADAPTER PLATE

Installation of Group Switch Module Adapter Plate

- The Group Switch Module adapter plate is secured with 4 screws see circled holes in photo for location
- <u>NOTE</u>: For proper orientation, the left side of the plate should be labeled "MODULE POWER SOURCE"



Labeled: "MODULE POWER SOURCE"

Group Switch Module Adapter Plate

- Orient plate with "MODULE POWER SOURCE" wording on the left side
- Plate locates below Relay Module adapter plate
- Align holes in plate with standoffs in sheet metal interior



Plate Alignment







 Insert screw/lock washer in upper left corner of plate – do not fully tighten at this time

- Insert screw/lock washer in middle of plate do not fully tighten at this time
- Insert remaining two screws/lock washers into plate
- Completely tighten all four screws

RELAY MODULE

Relay Module Information

- Each relay module should be supplied with a short module to module jumper
- Each relay module will need a unique address



Module address location

- To change module address, use small screwdriver to align arrow on switch with number on label
- The 10's location is on the left
- The 1's location is on the right
- Example: address 62 equals "6" in the 10's location and "2" in the 1's location



Change module address

RELAY MODULE

Install First Relay Module

- Set address of first module to **60**
- Make sure module position jumper ("UP") is oriented as shown
- First relay module is installed in the upper left position (next to relays #1- #6)
- Slide the two tabs on left side of module under raised slots in sheet metal interior
- Press down on right side of module to snap into place





Module 1 Installation



Install Second Relay Module

- Set address of second module to **61**
- Make sure module position jumper ("UP") is oriented the same as the first module
- Install second module in the lower left position, below the first module (next to relays #7 #12)



Module 2 Installation

RELAY MODULE

Install Third Relay Module

- Set address of third module to 62
- The module position jumper ("UP") <u>MUST</u> be moved as shown – this re-numbers the relay order to account for the inverted relay module
- Use a pair of pliers to lift the jumper and move down one position



Moving of Orientation Jumper

- Flip the module 180 degrees and install in the upper right position (next to relays #13- #18)
- Slide the two tabs on left side of module slide under raised slots in sheet metal interior
- Press down on right side of module to snap into place



Module 3 Installation

Install Fourth Relay Module

- Set address of second module to 63
- The module position jumper ("UP") MUST be moved
- Install fourth module in the lower right position, below the third module (next to relays #19 #24)



Module 4 Installation

RELAY MODULE JUMPER INSTALLATION

Install Jumper Between First and Second Relay Modules

- Use short jumper supplied with each relay module
 Jumpers are polarized wires always exit connector AWAY from the module
- Plug one end into the TOP of the second relay module
- Plug the other end into the BOTTOM of the first relay module



Install Jumper Between Third and Fourth Relay Modules
 Repeat this process for the jumper between the third and fourth relay module



Install Jumper Between First and Third Relay Modules

- Use long jumper supplied with this kit
- Plug one end into the TOP of the first relay module
- Plug the other end into the TOP of the third relay module



GROUP SWITCH MODULE INFORMATION

Group Switch Module Information

- The group switch module should be supplied with a short module to module jumper
- The group switch module will need a unique address



Module address location

- To change module address, use small screwdriver to align arrow on switch with number on label
- The 10's location is on the left
- The 1's location is on the right
- Example: address 40 equals "4" in the 10's location and "0" in the 1's location



Change module address

GROUP SWITCH MODULE INSTALLATION

Install Group Switch Module

- Set address of module to 40
- Group switch module is installed below the second relay module (to the right of the power supply)
- Slide the two tabs on the module slide under raised slots in sheet metal interior
- Press down on right side of module to snap into place



Set address



Module Installation

GROUP SWITCH MODULE JUMPER INSTALLATION

Install Jumper Between Group Switch and Second Relay Modules

• Use long jumper supplied with this kit

- Plug one end into the TOP of the Group Switch module
- Plug the other end into the BOTTOM of the second relay module





Jumper Installation

RELAY CONNECTIONS

Connect Relays to First Relay Module

- Start in upper left corner relay #1
- Slide relay #1 connector over header on first relay module – <u>NOTE</u>: Relay numbers are labeled along the side of the sheet metal interior
- Repeat process to connect relay #2 -#6 to first relay module







Relay #1 - #6 connection to first relay module

Connect Relays to Second Relay Module

- Start with relay #7
- Slide relay #7 connector over header on second relay module - <u>NOTE</u>: Relay numbers are labeled along the side of the sheet metal interior
- Repeat process to connect relay #8 -#12 to second relay module





Relay #7 - #12

Connect Relays to Third Relay Module

- Start with relay #13
- Slide relay #13 connector over header on third relay module – <u>NOTE</u>: Relay numbers are labeled along the side of the sheet metal interior
- Repeat process to connect relay #14 -#18 to third relay module



Relay #13 connection to third relay module



Relay #19 connection to fourth relay module

Connect Relays to Fourth Relay Module

- Start with relay #19
- Slide relay #19 connector over header on fourth relay module - <u>NOTE</u>: Relay numbers are labeled along the side of the sheet metal interior
- Repeat process to connect relay #20 -#24 to third relay module

CONNECT SWITCH INPUTS

Connect Relay Switch Inputs

- Connect relay switch inputs that were labeled and disconnected at the start of retrofit process
- <u>NOTE</u>: some wires may contain quick connect terminals, which must be removed to connect to modules
- <u>NOTE</u>: some wires may not reach intended target splice and insulate with small gauge wire to extend the wires
- Use small screwdriver to apply pressure to back of terminal – slide wire in opening
- Repeat for all wires



Trimming off quick connect





Switch input wiring

Switch Input Color Code		
RED	Relay ON signal	
BLACK	Relay OFF signal	
YELLOW	PILOT signal	
WHITE	Relay COMMON signal	

Pilot/Locator Jumper Position

• For lighted switches, move jumper to the correct position – LOC for locator or PILOT



Locator/Pilot jumper

CONNECT GROUP

Connect Group Inputs

- Connect group switch inputs that were labeled and disconnected at the start of retrofit process
- <u>NOTE</u>: some wires may contain quick connect terminals, which must be removed to connect to modules
- <u>NOTE</u>: some wires may not reach intended target splice and insulate with small gauge wire to extend the wires
- Use small screwdriver to apply pressure to back of terminal – slide wire in opening
- Repeat for all wires



Trimming off quick connect





Group input wiring

Terminal Color	Switch Position	Sensor Position
RED	Relay ON signal	Signal
BLACK	Relay OFF signal	Not used
YELLOW	PILOT signal	Power
WHITE	Relay COMMON signal	Common



For Switch inputs, jumper should be in SW positionFor Sensor inputs, jumper should be in SENS position



Switch/Sensor jumper

CONNECT DATA LINE

Data Line Connection – no scheduler or BACnet module

- Connect CAT5 Cable to RJ45 OUT jack on Group Switch module
- Route cable out of cabinet to required location



Data Line connection



- Connect CAT5 Cable to TOP RJ45 jack on back of scheduler – label if necessary
- Connect another CAT5 Cable (if required) to BOTTOM jack on back of scheduler – label if necessary



TOP connection – to Group Switch Module

BOTTOM connection – to external location

Back of Scheduler

- Scheduler bracket mounts to the right of the group switch module, and below the fourth relay module
- Route CAT5 cable(s) out open area on left side of bracket
 Align tabs on bracket with raised slots in sheet metal
- interiorSlide scheduler bracket downward into place on plate
- <u>NOTE:</u> the top tabs on bracket are a "blind fit" the tabs bend under the bracket
- Insert and tighten screw to lock in place



"Blind Fit" tabs





CONNECT DATA LINE

Data Line Connection – with scheduler

 Connect CAT5 Cable from TOP of scheduler to RJ45 OUT jack on Group Switch module



Connection to Group Switch Module

Route cable from BOTTOM of scheduler out of cabinet to required location



Route CAT5 cable out of cabinet

CONNECT DATA LINE

Data Line Connection - with BACnet module

 Connect supplied jumpers to module – <u>NOTE</u>: the two ends of the cable are polarized



Jumper location

- BACnet module bracket mounts to the right of the group switch module, and below the fourth relay module
 Align tabs on bracket with raised slots in sheet metal
- Align tabs on bracket with raised slots in sheet metal interior
- Slide bracket downward into place on plate
- NOTE: the top tabs on bracket are a "blind fit" the tabs bend under the bracket
- Insert and tighten screw to lock in place





Mounting

- Plug in jumper from module into BOTTOM of fourth relay module
- Plug CAT5 cable into Ethernet port on module
- Route CAT5 cable out of cabinet to required location





Ethernet Ports



CONNECT CLASS 2 POWER SUPPLY

Class 2 Power Supply Connection

- Slide Class 2 power supply connection onto header on group switch module
- NOTE: wires should exit connector AWAY from the module





RECONNECT POWER

If cover was removed, reinstall using original hardware. Reconnect live power to the panel.

These instructions do not cover all details or variations in equipment nor do they provide for every possible contingency that may be met in connection with installation, operation or maintenance. Should further information be desired or should particular problems arise that are not covered for the purchaser's purposes, the matter should be referred to the GE Company. Information provided is subject to change without notice.

For additional product and application information, please consult GE's Website: www.gelighting.com
Project Name:	MILLHAVEN INSTITUTION BUILDING Y
Location:	BATH, ONTARIO
Distributor/ PO	OSSO ELECTRIC/112855
Project #:	4042

PROGRAMMING INSTRUCTIONS

GE Technical Support #108-3228 South Service Rd Burlington, ON. Canada L7N 3H8 Toll Free 1-877-584-2685 Fax (905) 631-6880

Touchscreen programming instructions:

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Assign targets	Assign targets	
DIM4 programming	Assign targets	
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Navigation

Button Icons

Home page (GE logo)



The home page can be accessed at any time by touching the GE logo. The logo is located in the top-left of each page.

Exit (X)

The X symbol, located in the top right of each page, exits the current page.



The gear symbol displays the setup page.

Look-up (Magnifying Glass)



Touch the magnifying glass to access the look-up.

Swiping pages

If multiple pages are available, swipe a finger from right to left, across the page, to advance to the next page. Swipe from left to right to return back to the previous page.

Multiple pages are indicated by a sequence of circles in the center of the screen. The number of circles indicates the number of pages available, and the filled circle indicates which page is currently displayed.



Status Icons

Schedules have color coding to provide additional information.



Schedule Color:



- Red Schedule is On
- Light Gray Schedule is Off
- Dark Gray Schedule has no current entries.

Status Color:



- Red All lighting targets match active state
- Green Some lighting targets match active state
- White All lighting targets match inactive state
- Yellow Status of lighting targets is unknown
- Grey No targets defined

• Blue – Circular reference detected (Nested LC references have created a loop that needs to be fixed)

Basic Procedures

Schedule configuration

Schedules are configured from the system home page. Eight schedules can be setup from the Main page. They are labeled A-H.

To set/modify a schedule:



1. Touch a schedule icon to select that schedule.



2. The selected Schedule is displayed.



System Setup

System setup is done from the Setup screen, which is easily accessed from the system home page.

To modify the System Setup:



1. From the main screen, touch Setup.



2. The Setup page is displayed.

88	[DLS	5 Sel	tup		\bigotimes
V1.1 Buil	d 4.58					
1	CAN ID	Ø.	Locatio	n ()	Calibra	ation
Ø.	Chg Pwd			Ø	Clear	DB
	letwork	Ø	Device		Panel	ID

The following options are available:

- CAN ID
- Location
- Calibration
- Chg Pwd
- Clear DB
- Network
- Devices

• Panel ID

Network View

Network configuration is accessed from Setup menu. The network page displays a list of all devices connected to the system.

To access the Network View:

88	DLS	95 Setu	p	\otimes
V1.1 Build	4.58			
CF CF		Location	Calit	oration
	Chg Pwd		O Clea	ar DB
Ne	twork	Devices	Ø Pan	el ID

1. Touch Network from the Setup menu.



2. The Network page appears.

88		Network				C	leanu	IP	8
0	8	3	3	5	Ġ.	7	3	8	10
(t	12	13	14	15	10	17	18	19	GS2 0
-21	DM2	23	14	25	- 26	27	28	23	30
(1)	32	83	34	0.5	36	37	38	39	-40
01	42	45	4.4	45	SW4 6	47	48	48	50
51	2	53	64	115	Ę0,	57	- 58	-59	0.0.
120	- 212	63	64	85	86	07	88	- 69	- 70
77	TE	73	74	75	76	77	78	79	-83)
18	-81	85	84	85	86	197	38	89	90
91	.02	10	94	DLS9 5	06	97	-	500	

Device Programming

Devices are programmed from the Device List.

To view Devices:

88	DLS95	Setup	8
V1.1 Build	4.58		
CF CF		ocation O Ca	libration
	Chg Pwd	CI	ear DB
O Ne	twork O D	evices O Pa	nel ID

1. Touch Devices from the Setup menu.



2. The Device List appears.

3	De	vice Lis	st	C
			1	Details
GS20	DM22	SW46	RM62	DLS95
	(=1)			

3. Select a Device and touch Details

GS / SW

88 1	G	S1 Detai	ls	\otimes
ON	0FF			Edit
	LC1	0	LC2	0
	LC3	0	LC4	0
	LC5	0	LC6	0
	LC7	0	LC8	0

DM



RM

V1.1 Build 3.53		
ON OFF		Edit
RLY 1	RLY 2	0
RLY 3 🞯	RLY 4	0
RLY 5	RLY 6	0

Detailed Instructions:

Date/Time

Time and date are set from a common page, easily accessed from the system home page.

To set or change the Time and Date:



1. From the main screen, touch the Date/Time icon on the display.



2. The Date/Time Setup page appears.



Location Setup

Time adjustments for daylight savings are handled automatically by configuring the system location coordinates. This can be done manually or automatically.

To manually set the Location Coordinates:



1. From the Location page, adjust the Longitude and Latitude for the current location.



2. Use the checkboxes for DST (daylight savings time) or UTC (Coordinated Universal Time) if needed.



3. Touch Save to set the location.

If the exact longitude and latitude are not known, select a city from the included list that is nearest the current location.

To automatically set the Location Coordinates:

1.	From the Regions page, select a Region.

R	egions 🛞
	• •
Canada	Western USA
Central USA	Eastern USA
Central America	South America
Eastern Europe	Western Europe
Far East	

2. Select a specific City from the Region. Swipe left or right to view the complete list of available cities.



3. If the specific location is not available, select a nearby city. Since the location is used primarily for Time Zone purposes, an approximate location is usually sufficient.

Schedule configuration



Selecting a Schedule

Schedules are selected from the Main Screen. There are eight schedules available, identified as A to H.

Active Schedules display their current status (On or Off) and the next time an On/Off event is scheduled to occur.

Touch a Schedule to view the Schedule details and options.



Options:

- Return to Main Screen
- Targets
- Exceptions
- Look up
- Cancel

Daily Schedule setup

When viewing a Schedule, the screen displays the current day's Schedule. Swipe left or right to change the day being displayed. There are seven pages, one for each day of the week.

To create a new Schedule:

1. Touch an empty Schedule on the Main Screen.



2. Swipe left or right to select the correct day in which to add the Schedule entry. For Schedules entries that are expected to for multiple days, simply select one of the days.



3. Touch Add.

Add

4. Select a start and end time.

		Scl	hed	ule A	1	6
			ן ו			
_		-		-		-
08	1	00		17	1	00

5. Touch Save. The new Schedule entry is created.

88 💡 🗖	Sched	ule A 🔍 🐼
Monday	• 0 0 0 0	0 0
Add	Edit	Delete
08:00 ~ 1	7:00	
MTV	V T F	S S Copy

To copy a Schedule entry to other days:

1. Select the desired Schedule entry.

😵 💡 🗒 Sche	edule A 🔍 🐼
Monday • o o o	000
Add Edit	Delete
08:00 ~ 17:00	
MTWT	F S S Copy

2. Use the days of the week buttons along the bottom to select which days the Schedule entry applies to. Select as many as necessary. Selecting the current day isn't required.



3. Touch Copy to copy the Schedule entry to the selected days.

To edit a schedule entry:

1. Select the desired Schedule entry.

🔞 💡 🗒 Sche	edule A 🔍 🐼
Monday • o o o	000
Add Edit	Delete
08:00 ~ 17:00	
M T W T	F S S Copy

2. Touch Edit.



3. Make changes as needed. Touch Save.



Special days

Exceptions entries can be added to a schedule for days when the normal schedule entries should not apply.

There are three types of exceptions that can be created.

- Single Recurring Date
- Date Range
- Recurring Week/Day

To create an exception entry:

1. From the Schedule screen, touch the Exceptions button.

88 9	240	Sche	edule A	9 🐼
Monday		• 0 0 0	000	
Add	Ed	lit		Delete -
08:00	~ 17:0	00		
	_	0		
MT	W	(T)	F S S	S Copy

2. The Schedule Exceptions screen appears.



3. Touch Add



4. Select the Exception type by swiping left or right.

%	S	chedule	A	8	88	86	Schedule	Schedule A
ngle/Recu	rring Date	• • •			Date Rang	Date Range	Date Range 0 • 0	Date Range 0 • 0
				Next	End Date	End Date	End Date	End Date
	DD	MM	YYYY			DD	DD MM	DD MM YYYY
		~	~					
	03	Nov	2011			03	03 Nov	03 Nov 2011
	-	-	-			-		
_								
88	S	chedule	A	8	2	2	2	3
Recurring	Week/Day	000	_			1	1	
8				Next				
	Week	Day	Month		1			
	-	-						
	Every	Week	Every		I			
	-	-	-		1			

- Single/Recurring Date Best used an exception that applies on a specific day. Either a day
 each month, or a day every year. For example, a Christmas Schedule can be set up to
 apply every December 25th.
- Date Range Used for exceptions that apply for a specific amount of time. Both a start and end date must be defined. For example, an exception could be created for a temporary closure.
- Recurring Week/Day Used for exceptions which occur on specific days (not dates) of the month. For example, an exception could be set up for every Monday in January.
- Select a start and end time.



5. Touch Save.



To edit an Exception schedule:

1. Select an exception entry from the list.

lule A 🛛 🛞
Delete
08:00 ~ 17:00 ON

2. Touch Edit and make the necessary changes.



3. Then touch Save.

To delete an Exception entry:

1. Select an exception entry from the list.

83	Schee	dule A		\otimes
Exceptions				
Add	Edit	_	Delet	e
16-Jul-2012		08:	00 ~ 17:00	ON

2. Touch Delete.



Assign targets

To assign targets

1. Touch the Targets icon.



2. The Targets page appears.



- 3. Touch Add.
- 4. The Target Add page appears.

	LOUGE	er rui	gorinad	
				Next
GS20	DM22	SW46	RM62	DLS95
	1			
				-
_				

5. Select a target type, and touch Next.

Assign targets

Different types of targets can be added depending on what devices are connected to the controller.

RM

				Next
GS20	DM22	SW46	RM62	DLS95
_			_	
			_	

- 1. Select RM
- 2. Touch one or more Relay Targets to select it them.



- 3. Use the Up/Down arrow to choose between the Standard ON/OFF, or scene control On Only or Off Only.
- 4. Touch Next

DLS

				Next
GS20	DM22	SW46	RM62	DLS95

- 1. Select DLS
- 2. Touch one or more Lighting targets to select it them.

	Next
LC 1	LC 2
LC 3	LC 4
LC 5	LC 6
LC 7	LC 8

3. Touch Next.

DM

				Next
GS20	DM22	SW46	RM62	DLS95

22	Time Langer
	Next
CH1	CH 2
CH 3	CH 4

- 1. Select DM
- 2. Touch one or more Channels to select them.



- 3. Use the Up/Down arrows to set the On and Off Value.
 - Setpoint
 - Output
 - Local Control
 - Release
- 4. Use the Up/Down arrows to select the value (if applicable). The Local Control and Release options do not require a value set.
- 5. Check to use an Off Value.
- 6. Touch Add.

	-		
4	r	c	2
	T	. 1	,
1	-	~	

	_			Next
S20	DM22	SW46	RM62	DLS95
	· · · · ·			1 - 1

ULS95 LC1 Add Target			
	Next		
LC 1	LC 2		
LC 3	LC 4		
LC 5	LC 6		
LC 7	LC 8		

- 1. Select GS
- 2. Touch one or more LC targets to select them.
- 3. Touch Next

SW

DLS95 LC1 Target Add 🛞					B DLS95 LC1	Add Target
			- (Next		Next
GS20	DM22	SW46	RM62	DLS95	LC 1	LC 2
					LC 3	LC 4
					LC 5	LC 6
					LC 7	LC 8

- 1. Select SW
- 2. Touch one or more LC targets to select them.
- 3. Touch Next

Target Details

Relays



On/Off – Standard button control where it can command the LC's targets to their Active or Inactive values On only – Scene button control where it can command the LC's targets to their Active value Off only – Scene button control where it can command the LC's targets to their Inactive value





Flick Warning – The Flick Warning provides a visible warning (by quickly flicking the lights on/off) that the scheduled end time is approaching, and that the lights will be turning off.

Flick Duration – The Flick Duration determines how long before the scheduled end time the Flick Warning occurs.

Min ON Time – The Minimum On Time establishes the minimum time that the lights will remain on.

Max ON Time - The Maximum Off Time establishes the maximum time that the light will remain on.

LC's



LC's are all On/Off type only.

Select an LC and touch Edit to modify the Targets

SW



Network Switch (similar with GSM configuration)



- Button Count Defines the number of active buttons on the Switch
- Locator Light If checked, enables the small locator light LED on the switch

Dimming Modules

• Photocell (Indoor)



• Photocell (other)



• None – Provides a default output used at startup



Define setpoints



Define input type

To modify the Input Configuration

1. Go to the manage Targets page.

Add				Remo	ve
GS20 LC5	0	SW46 LC4	RM	52 Rly3	6
RM62 RIy4	0				
	-				

2. Touch Configure.



3. Touch Add from the Target Controls page.

8	SW46 LC3 Controls				
Add	Edit	Delete			
-					

4. Select a Control Type.

SW46 LC3	Add Control					
Select Type	Select Type					
	Next					
Photocell	Occupancy					
Schedule	Switch					
Astro	Common Area					
Sweep						

LC Control Type

Switch



Switch Type:

• Standard

88 \$	SW46 L0	C3 SV	vitch Control	3
Туре		-	Standard	
+	On/Off		Flick Warr	2
Enable F	lef		x	
Reverse			Save	

- o On/Off Standard switch action able to turn On and Off
- On Only Single action able to turn On only
- o Off Only Single action able to turn Off only
- Override

88 SW461	LC3 S	witch Cor	ntrol	3
Туре	-	Override	-	
Override Time	+	0 min	-	
On/Relea	se		Flick Warr	n
Enable Ref		(x	
Reverse			Save	

- o On/Off Commands outputs into the override priority at On and Off
- On/Release Commands outputs into the override priority On, and releases from override priority
- Off/Release Commands outputs into the override priority Off, and releases from override priority
- On Only Single action commands outputs into the override priority On only
- o Off Only Single action commands outputs into the override priority Off only
- Release Single action releases outputs from the override priority
- Cleaning
 - On/Release Commands outputs into the cleaning priority On, and releases from cleaning priority
 - o On Only Single action commands outputs into the cleaning priority On only
 - o Release Single action releases outputs from the cleaning priority
- Emergency
 - o On/Off Commands outputs into the emergency priority at On and Off
 - On/Release Commands outputs into the emergency priority On, and releases from Emergency priority

- Off/Release Commands outputs into the emergency priority Off, and releases from Emergency priority
- On Only Single action commands outputs into the emergency priority On only
- Off Only Single action commands outputs into the emergency priority Off only
- o Release Single action releases outputs from the emergency priority

Timeout – Set to 0 minutes for no timeout functionality, or up to 1200 minutes in 5 minute intervals. At the end of that timeout, if not other commands have been made to the outputs, the command will be released at the set priority, or turned off if at Standard priority

Flick Warn – Enabling Flick Warn will command the LC's output to use the output's configured Flick Warn settings and egress time.

Enable Ref – Select a Schedule (SCH) or Occupancy input (BI) to only allow the switch to operate during specific periods. Useful when a switch needs to operate a certain way during normal hours and another way after hours, or in places where lights should be on during occupied periods but switch functionality is required after hours.

Reverse – Use reverse if the switch functionality is required to be enabled during off hours (when the schedule or timeclock input is Off)

ct Type		Select input	
and the second s	Next		Ad
Photocell	Occupancy	GS20 Occ 1	
Schedule	Astro		
Common Area	Sweep		

Occupancy sensor - time delay



- Turn lights on when occupied When selected, the lights turn on during occupied periods of the Schedule.
- Allow Switch-OFF while occupied When enabled, the lights can turn Off during occupied periods. Occupancy will not retrigger the lights to go on until the sensor has not detected motion for the unoccupied duration.
- Turn lights off when unoccupied for: The lights automatically turn off when the targets are unoccupied for the set amount of time.
- Flick Warn The lights will flicker briefly as a warning before turning off.

	Next			1	A
Photocell	Occupancy	GS20 PC 2	GS20 PC 3	GS20 PC 4	
Schedule	Astro				
Common Area	Sweep				

Photocell – Light level triggers



The Photocell option uses the ambient light levels to determine if the lights should turn on or off.

- Light Off When light rises above set the illumination required to turn the lights off.
- Light On When light falls below set the illumination required to have the lights turn on.

	Nex
Photocell	Occupancy
Schedule	Astro
Common Area	Sweep



The Astronomical settings allow the lights to be turned off/off with the Sunrise/Sunset

• Toggling the Lights On/Off for either Sunrise or Sunset will automatically toggle the action of the opposite setting.

Astronomical

Schedule

t Type		Select Input			
	Next		-	_	Add
Photocell	Occupancy	DSL95 SCH	DSL95 SCH	DSL95 SCH	DSL95 SCH
Schedule	Astro	DSL95 SCH	DSL95 SCH	DSL95 SCH	DSL95 SCH
Common Area	Sweep				



Toggling the Lights On/Off for either Sunrise or Sunset will automatically toggle the action of the • opposite setting.

Sweep



When Sweep is On, it commands its target lights Off when the Sweep Time has elapsed, (if no ٠ other control wants the lights on)

Common Area

B DLS95 LC1 Co Select Type	ntrols Enable 🛛	Areas Select to add
Photocell	Occupancy	Hold Period 0 min
Schedule	Astro	Flick Warn
Common Area	Sweep	
		Save

System troubleshooting

FE			Network Cleanup					ip)	8	
1	3	Э.	14	5	6	7	Ê-	â	1.6	
11	12	12	14	SW1 5	16	17	16	TĐ	GS2 0	
21	DM2 2	23	2.6	25	-20	27	3	:29	202	
31	32	10	34	35	56	-37	-395	89	40	
41 ·	45	49	44	-45	SW4 6	117	48	-40	50	
51	52	23	54	55	50	57	58	59	60	
11	PENES.	04.	50	00	00	67	- 88	- 69	70	
.74	72	100	78	70	70	77		70	3071	

Network health status – Network screen

- Relay Override command On/Off buttons on Device -> RM Details screen allows for the relays to be commanded on or off at the CLCDLS
- LC override command On/Off buttons on Device -> SW or GS Details screen allows for the all LC targets to be commanded to their Active or Inactive state at the CLCDLS
- Time and date red color for system time not setup



GE Lighting Control

[LIGHT SWEEP CLC340X SOFTWARE GUIDE]

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Software Installation

GE LC software is used to setup the BACnet communication parameters to interface with BMS and to program proprietary objects or create custom programming.

1. Software installation:

Install the Sentinel System Driver – located in Third party Software folder

Plug in the Sentinel Rainbow key – containing the software license

Run the GELC Suite Setup to install the appropriate software – according to the license key.

2. Establishing communication to the CLCBnet device

Once the software is installed, connect to the CLCBnet controller using the Ethernet port and launch the application.

At the Login screen select the Ethernet port under the Advanced Tab – the interface name will be displayed in the Connection line as per below window. Make sure this is the internal port and not the wireless or virtual port created by other applications.

Logon		×
8	Logon to the network	OK
Username		Cancel
Password		Help
Site	GEDemoSite	anced >>
Connection	Intel(R) 82579LM Gigabit Network Connection	
Connect Using	Ethernet : Intel(R) 82579LM Gigabit Network Conn Ethernet : Microsoft Ethernet : Intel(R) 82579LM Gigabit Network Conn Ethernet : Juniper Network Connect Virtual Adapter Ethernet : Microsoft Serial : BACnet PTP Serial : BACnet PTP Serial : BACnet PTP UDP/IP : 3.58.224.153	ection -

Configuring Navigator

CLCBnet device will show in the navigator – (with the default address 100).

1. Setting the CLCBnet communication parameters

The default view of the navigator will show only the Lighting Objects. To adjust the communication parameters this will require changing the filter to Show All option:

- Right click on the lower right corner of the Navigator window and select Show All. This will allow you to see all BACnet objects to make changes for communication type of controller and speed.

Avigator - CLCBnet 100 (100)		
	▼ Cancel	
	Name	
Access BACnet Protocol CLCBnet 100 (100) CSC (127) Active Alarms Reports Graphics	Simple DimmingModule31 AO1 Simple DimmingModule31 AO2 Simple DimmingModule31 AO3 Simple DimmingModule31 AO3 Simple DimmingModule31 AO4 Simple RelayModule Panel(01) Relay(01) - CAN20 BO1 Simple RelayModule Panel(01) Relay(02) - CAN20 BO3 Simple RelayModule Panel(01) Relay(03) - CAN20 BO3 Simple RelayModule Panel(01) Relay(04) - CAN20 BO4 Simple RelayModule Panel(01) Relay(05) - CAN20 BO5 Simple RelayModule Panel(01) Relay(05) - CAN20 BO5 Simple RelayModule Panel(01) Relay(06) - CAN20 BO6 Simple RelayModule Panel(01) Relay(07) - CAN21 BO1 Simple RelayModule Panel(01) Relay(08) - CAN21 BO2 Simple RelayModule Panel(01) Relay(09) - CAN21 BO3 Simple RelayModule Panel(01) Relay(09) - CAN21 BO3 Simple RelayModule Panel(01) Relay(10) - CAN21 BO4 Simple RelayModule Panel(01) Relay(11) - CAN21 BO5 Simple RelayModule Panel(01) Relay(12) - CAN21 BO5 Simple RelayModu	
170 object(s)	<u>الا</u> (۲) (۲) (۲) (۲) (۲) (۲) (۲) (۲) (۲) (۲)	Show Lighting Objects
		Show Advanced Lighting
		Show All
		Active Alarms

Configuring BACnet communication

The object used to adjust the communication parameters is called BACnet Settings 100 (where 100 is the device address). Changes required to the BACnet Settings only required if integrating to building automation systems or accessing lighting control system over TCP/IP network.

Avigator - CLCBnet 100 (100)		
		▼ Cancel
E-S Network	Name	Object 🔺
Access BACnet Protocol CLCBnet 100 (100) CSC (127) Active Alarms Reports Graphics	 GE BBMD List1 100 Data Exchange Settings 100 DER1_200_DEV200_1122_R Event and Alarm Settings 100 Access Control Alarm Log Priority Names 100 BACnet Settings 100 Slave Device List 100 Administrator Internet Protocol Settings IO Mapping DimmingModule31 AO1 DimmingModule31 AO2 DimmingModule31 AO3 	100.SUA1 100.BMD1 100.DES1 100.DER1 100.EVS1 100.EVL1 100.PAN1 100.NET1 100.SUG1 100.IOM1 100.AO403101 100.AO403103
	•	•
1 object(s) selected		

Double clicking on the BACnet Settings icon will bring the network protocol setting dialog box as seen below.

Communication parameters:

- MS/TP Port 2 Using the twisted shielded pair labeled on the controller as NET2 RS-485.
 - Adjust the Baud rate required by the BMS controller
 - Change the MAC address to a unique number default is setup to 0.

Setup	Advanced	MS/TP Slaves	Desci	iption			
Port	Туре	E	nabled	Status		Status Reference	
1	MS/TP			Driver Dis	abled		
2	MS/TP			Active		BACnet Settings 100 (NET1)	
3	PTP		J	Active		BACnet Settings 100 (NET1)	
5	Ethernet			Active		BACnet Settings 100 (NET1)	
7	UDP/IP			Driver Dis	abled		
Bau	ud Rate	76800		•]	Ford	ce Speed Change	
Ma	k Master	127					
Ma	x Info Frames	2					
MA	C Address	0		× ×			
Net	work	59999		A V			

- Ethernet enabled as default.
 - Allows changing the Speed to Auto or one of the available values: 10 or 100 Mbps with half or Full Duplex.

Setup	Advanced	MS/TP Slaves	Descr	iption		
Port	Туре	E	nabled	Status	Status Reference	
1 2 3	MS/TP MS/TP PTP		ব ব 🗆	Driver Disabled Active Active	BACnet Settings 100 (NET1) BACnet Settings 100 (NET1)	
5	Ethernet		2	Active	BACnet Settings 100 (NET1)	
7	UDP/IP			Driver Disabled		
Eth	ernet Addres	5		00-40-ae	-02-4d-65	
Spe	eed			Auto Auto 10Mbps - Ha 10Mbps - Fu 100Mbps - Fu	If Duplex In Duplex I alf Duplex	

- UDP/IP disabled by default.
 - Set the IP address, Subnet Mask and Gateway.
 - Configure the UDP Port to match the BMS controller (default is 47808).
 - If the device is in a different network than the BMS controller/computer, set the device type as BBMD. If the device is in the same network, set the type as Regular.

Setup	Advanced MS	/TP Slaves	Descr	iptio	n			
Port	Туре	E	nabled	St	atus	Status Re	ference	
1 2 3 5	MS/TP MS/TP PTP Ethernet		ন ন ন 🗆	Dri Aci Aci Aci	ver Disabled tive tive tive	BACnet Se BACnet Se BACnet Se	ettings 100 (NET1) ettings 100 (NET1) ettings 100 (NET1)	E
•	OPPAP				ver pisableu			
Setup	Statistics BB	MD List		_				-
De	vice Type	BBMD Devic	ce	•	Use DHCP			
UD	P Port	47808		-	IP Address		003.058.224.152	
Pro	xy (NAT) Address	000.000.000.000			Subnet Mas			
BB	MD Address				Gateway Ad	dress 003.058.224.001		
Re	gistration Timeout	60 Seconds		A V				
Ne	twork					49999		A. ¥

To enable or disable any of the ports, double click the square box and apply.

Important Notes: If the device will use the UDP/IP communication, disable the Ethernet port; else the device will create a circular network communication.

Reset the device after changing the communication parameters. To reset the device from the navigator left click on the CLCBnet controller in the network list and select Command - \rightarrow Reset and seen below.

-			
Network		N	Name
BACnet P	rotocol		🔓 GE
	Open	Ctrl-O	BMD List1 100 Jata Exchange Settings 100
300	300 Command		Load From Flash
	Find Object Connect		Save To Flash Clear Database
Vic	Reload		Update Active Alarm List
- Active	Object Security		Communication Control
Report	New		Remove Area
- J Olaphi	Paste	Ctrl-V	Reconfigure
	Load		Reset
	Save As		immingModule20 Direct AO4
	Print	Ctrl-P	immingModule20 SetPoint AO5
	Properties	Alt-P	immingModule20 SetPoint A07

Configuring CLCBnet

 Setting the CLCBnet device name and BACnet address Right click on CLCBnet 100 in the Navigator window and select Open.

8 Network		Name	
BACnet Protocol		88 Fire	
CLCBnet 100 (Open	Ctrl-O	rol Event
	Command	•	rol Alarm
	Find Object Connect		insfer File
CLCTSI (2000)	Reload	•	ics.or
	Object Security New	٠	ormation 100
H- Graphics	Paste	Ctrl-V	0-200 ppm A
	Load Save As		0-10 A AIC 0-120 A AIC 0-30 A AIC
	Print	Ctrl-P	0-50 A AIC
	Properties	Alt-P	0-60 A AIC

- o Description tab:
 - Name
 - Software Address
 - Latitude and Longitude used for Astronomical clock function

Database	Scan Rate /Se	с 32.7	1/O Scan	Rate /Sec	32.73
escription	Configuration	Time Info	Time Sync	Product Pro	tocol Inter
Name			CLC8net 1	00	
Name Software i	Address		CLCBnet 1 100	00	Å
Name Software / Location Latitude	Address		CLCBnet 1 100	00	
Name Software Location Latitude Longitude	Address		CLCBnet 1 100 0.0 *	00	•

- o Time Info tab:
 - Universal Time Coordinate (Enable or Disable). Used in conjunction with location parameters for Astronomic clock. UTC offset = time zone value in minutes with "-" sign (Eastern time zone = -300 minutes, Pacific time zone = -480 minutes).
 - DST Enable or Disable. Allow to select the relative dates and the transition time.

escription Confi	guration	Time Int	fo	Time Sync	Product	Protocol	Inte	ernet
Time	-	14:36	:54	GCLTin	neout	20.0 Seco	onds	-
Date		10-Dec-2	012	Save/Load		60 Secon	ds	A .
Universal Time Co UTC Enable	o-ordinate	ed —		UTCOM	set	0 Minutes		*
Enable				Time Ad	justment	60 Minute	s	
Standard	North	America	•	Status		FALSE		100
Transition Time	2:00	:00	*	Type		Week and	i D ay	=
	Week	<	Da	9	Month	0n	and A	fter
Start DST on	Seco	nd 🔻	Sur	nday 🔻	March	-		
End DST on	First	•	Sur	nday 🔻	November	•		

System Configuration

All network objects will be displayed in the Navigator screen. To make it easier to program the system, change the filter to Show Lighting Objects.

								▼ Can	ce
Solution Network	Name	Object	Value	Units		8	Status	Object Type	
Access	@# RelayModule Panel(00) Relay(00) - CAN02 BO1	100.BO400201	OFF		1			Binary Output	
BACnet Protocol	@# RelayModule Panel(00) Relay(00) - CAN02 BO2	100.BO400202	OFF		4			Binary Output	
CLCBnet 100 (100)	@# RelayModule Panel(00) Relay(00) - CAN02 BO3	100.BO400203	OFF		4			Binary Output	
	@# RelayModule Panel(00) Relay(00) - CAN02 BO4	100.BO400204	OFF					Binary Output	
Active Alarmer	@# RelayModule Panel(00) Relay(00) - CAN02 BO5	100.BO400205	OFF		4			Binary Output	
	@# RelayModule Panel(00) Relay(00) - CAN02 BO6	100.BO400206	OFF					Binary Output	
Graphics	@# RelayModule Panel(00) Relay(00) - CAN81 BO1	100.BO408101	ON					Binary Output	
u 🖬 elephine	@# RelayModule Panel(00) Relay(00) - CAN81 BO2	100.BO408102	ON		4			Binary Output	
	@# RelayModule Panel(00) Relay(00) - CAN81 BO3	100.BO408103	ON					Binary Output	
	@# RelayModule Panel(00) Relay(00) - CAN81 BO4	100.BO408104	ON					Binary Output	
	@# RelayModule Panel(00) Relay(00) - CAN81 BO5	100.BO408105	ON					Binary Output	
	@# RelayModule Panel(00) Relay(00) - CAN81 BO6	100.BO408106	ON		4			Binary Output	
	*S CPU Board Temperature	100.AI83	39.9	*C	4			Analog Input	
	* GroupSwitch10 Photocell All	100.AI401001	0	%	4		Fault	Analog Input	
	* GroupSwitch10 Photocell Al2	100.AI401002	0	%			Fault	Analog Input	
	* GroupSwitch10 Photocell AI3	100.AI401003	0	%			Fault	Analog Input	
	♦S GroupSwitch10 Photocell AI4	100.AI401004	0	%			Fault	Analog Input	
	* GroupSwitch10 Photocell AI5	100.AI401005	0	ft-c	-			Analog Input	
	♦S GroupSwitch10 Photocell Al6	100.AI401006	0	ft-c				Analog Input	
	* GroupSwitch10 Photocell AI7	100.AI401007	0	%	4		Fault	Analog Input	
	*S GroupSwitch10 Photocell Al8	100.AI401008	0	%			Fault	Analog Input	
	♦S DimmingModule20 All	100.AI402001	0	ft-c				Analog Input	
	♦S DimmingModule20 AI2	100.AI402002	0	ft-c	4			Analog Input	
	♦S DimmingModule20 AI3	100.AI402003	0	ft-c				Analog Input	
	♦S DimmingModule20 Al4	100.AI402004	0	ft-c				Analog Input	
	*@ Run Clear Button	100.BI80	OFF		4			Binary Input	
	* Unused Button	100.BI81	OFF					Binary Input	
	*@ GroupSwitch10 Occupancy Bl1	100.BI401001	Unoccupied				Fault	Binary Input	
	*@ GroupSwitch10 Occupancy BI2	100.BI401002	Unoccupied				Fault	Binary Input	
	1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				-			- · ·	ŕ

Based on type the lighting objects are categorized as:

- Analog Outputs AO dimming channels
- Binary Outputs BO relays
- Analog Inputs AI inputs defined as analog objects- dimming module inputs or group switch inputs
- Binary inputs BI- inputs on GSM module defined as Occupancy sensors.
- Analog Values AV for CLCDIM module allow to setup the dimming parameters
- Binary Values BV Virtual objects on CLCBnet controller. Can be used as triggers for LC groups
- Schedules SCH eight objects on CLCBnet controller. Each CLCDLS touchscreen has also 8 schedules.
- Lighting Control Groups LC sixteen local groups on CLCBnet and 8 groups on each group switch module CLCGSM8 or dataline switch CLCSWT. The lighting groups are used to create the field control scenarios

Lighting BACnet Objects

	2. Dir	nming Mod	ule - Channel Objects
Name	Object type/Offset	Units of Measure	Description
Dimming level output	AO 1	%	Used in a closed-loop configuration for daylight harvesting. Manual control - used for scenes (priority 10).
Room light level input	AI 1	ft-c	This value indicates the light level in the room. The value is used to adjust the SETPOINT for closed-loop daylight harvesting
Light Level Setpoint	AV 11	ft-c	Indicates that value that level input must be greater than to cause the channel relay to turn off
Min	AV 12	%	Minimum dimming level output value
Max	AV 13	%	Maximum dimming level output value
LocalCtrlMin	AV 14	ft-c	
LocalCtrlMax	AV 15	ft-c	
Response Rate	AV 16	%	
RampRate	AV 17	%	
InputRef	AV 18	None	
FlickWarnPeriod	AV 19	min	Amount of time the lights will remain on after a flick-warn signal has been executed
LocalFadeTime	AV 20	sec	
AdaptationCompensation	AV 21	Fc/min	

	Group Sv	vitch Modul	e - Channel Objects
Name	Object	Units of	Description
	type/Offset	Measure	
Photocell			Percent of light in space relative to maximum ft-c
	AI 1	%	value
Occupancy	BI 1		Active, Inactive
Туре	MV 1		
Group Output	BV 1		
Group Members	Proprietary		List of relay circuits controlled by the group

Relay Module - Channel Objects					
Name	Object	Units of Measure	Description		
	type/onset	Wiedsure			
Relay Output	BO 1		Control the lighting circuit power relay		
			(Priority 5 - Emergency - override - demand		
			Response		
			Priority 15 - Schedule - includes the Flick Warning		
			Priority 16 ON/OFF)		

Relay properties

To adjust relay for flick warn and duration amount this is done through the relay properties dialog box for each individual relay. To access the dialog box double click on relay.

- Lighting tab: Flick Warning: Enable/Disable and Flick time the time between the relay flicker and the OFF transition.
- The relay will flick only if the OFF command received is a flick type command.
- The Setup tab allows changing the relay name.

@* RelayModule Panel(00) Relay(00) - CAN02 BO1 (100.BO400201)	Content RelayModule Panel(00) Relay(00) - CAN02 BO1 (100.BO400201)
• • • • • • • • • • • • • • • • • • •	0 DFF 👰 Auto 🖌 🕎 💩
Control Signal OFF at Priority 16 from	Control Signal OFF at Priority 16 from
Feedback Disabled Min On/Off Delay 0 Seconds	Feedback Disabled Min On/Off Delay 0 Seconds
Last ON 18:06:16 24-Feb-2013 Last OFF 06:20:18 25-Feb-2013	Last ON 18:06:16:24-Feb-2013 Last OFF 06:20:18:25-Feb-2013
Description Setup Device Priority Array Lighting Alarming Alarm Text	Description Setup Device Priority Array Lighting Alarming Alarm Text
Enable	Name tanel(00) Relay(00) - CAN02_B01
Time 1 Minutes	HVAC Access Lighting V
	Manual Override at Default Value Priority Level 5 Timers 0FF Minimum On Time 0.0 Minutes Minimum Off Time 0.0 Minutes After ON don't turn on next output for 0 Seconds
OK Cancel Apply 💡	DK Cancel Apply ?

Configure the Lighting Group – LC

The LC objects are used to create the control logic:

- 1. Grouping multiple relays for the same type of control
- 2. Assigning trigger points schedules, occupancy sensors, photocells
- 3. Create the control logic for each trigger point ON only, ON/OFF or OFF only mode.
- 4. Define control scenes when relays and dimming outputs are combined.
- 1. Assign relays or analog outputs to a lighting group using the **Outputs** Tab.

Current Priority 0.0				
mmary Setup Outputs Triggers				
Lighting Output	Active Value	Inactive Value		
RelayModule Panel(00) Relay(00) - CAN02 B01 RelayModule Panel(00) Relay(00) - CAN02 B02 RelayModule Panel(00) Relay(00) - CAN02 B03 RelayModule Panel(00) Relay(00) - CAN02 B04 DimmingModule20 Direct A012	On On On Direct Control (65%) Direct Control (15%)	Off Off Off N/A		
DimmingModule20 Direct AD2	Direct Control (15%)	N/A		

2. Assign the trigger points – under **Triggers** tab

GroupSwite	ch10 LC1 (100.LC40	1001) Lighting Contro	ol				×
	I Off					L	
Current Pri	iority	0.0					
Summary S	Setup Outputs T	riggers					
Trigger 1 2 3 4	Type Switch Schedule Astro None	Input MI401001 Scheduler99 SCH CH	11	* * *	Click to edit	properties	
Sweep Ena	able	Sweep Time	1 minutes	A. V	Flick Warn		
Switch Type Timeout	e Stand 0 mir	lard 🔹	On/Off Flick Warn	 ✓ 			
Enable Ref	Sche	duler99 SCH1	 Reverse 				
					ОК	Cancel	Apply 💡

- 3. Select the type from the drop down Type list:
- Schedule time schedule
- Astro based on sunrise and sunset
- Photocell
- Occupancy sensor
- Switch
- Sweep Enable if lights are turned ON by local override and all triggers are OFF, the sweep will turn lights OFF after the Sweep Time. If the Flick Warn is enabled, the lights will flick at the end of the Sweep Time
- 4. Edit the trigger properties:
- Schedule enable the ON & OFF action and select the offset. The offset allows to utilize same schedule for multiple groups – store scheduler for retail applications. Enable the Flick warning.
- Astro select the offset for ON and OFF based on sunrise and sunset time
- Photocell Set the high and low light levels to turn lights ON and OFF. For indoor lighting use a dead-band equivalent to the amount of artificial lighting provided by the luminaires in order to avoid the ON/OFF oscillations.

- Occupancy sensor allow to setup a time delay through the software. This time delay will add to the time delay configured at sensor level. Recommended is to use a sensor with time delay less than 1 minute.
- Switch can select a reference schedule to enable/disable the switch functionality either in direct mode (switch enabled when schedule is ON) or reverse (switch is enabled when the schedule is OFF).

Assigning Time Schedules

and a second						
18 0	Auto	Control	ler Time/Date 12:33:30	25-Feb-2013		۷
in Setup Details D	escription					
€ → Select a date	5 Sunday, Februar	y 24, 2013 to Satu	rday, March 02, 2013			
Sunday 24	Monday 25	Tuesday 26	Wednesday 27	Thursday 28	Friday 1	Saturday 2
300						
00						
- 00	_					
000						
100						
200						
-						
300						
4 00						-
500						
	_					
500						
7 ⁰⁰	_					
2 00						

To define a time schedule:

- Double click the schedule object: For example CLCBnetxxx SCH1
- Select the day of the week to update
- Click the start time and drag to end time
- In the box that pops up select the weekly schedule
- Enter check marks for all days with similar schedule

				Add Wee	kly/Exception Schedule			
				Exceptions	Weekly Schedule			
3 Add Weekly/Exception Scher	dule		×	Exception	туре	Single	Date	
Exceptions Weekly Schedule				Date		2/	25/2013	15
Monday Tuesday	Vednesday		hursday	Priority (i.	e. 1-High, 16-Low)		8	
Saturday	Sunday	V	reekdays	Start Time	e		09:00	
Start Time		09:00	×	End Time			15:30	
End Time		15:30	×	Value			On	
Value		On	•	Descriptio	on			
		Close	Add				Close	Add

Exceptions – holidays – must be defined for each schedule used in the system, creating a bigger flexibility in case a custom event must be assigned to a particular zone, without affecting the other schedules.

18 0		🦉 Auto	Contr	oller Time/Date 13:03:2	6 25-Feb-2013		۷	
in Setup	Details Descrip	otion						
€	ct a date 15	Sunday, Febru	ary 24, 2013 to Sati	urday, March 02, 201	3			-
S	unday 24	Monday 25	Tuesday 26	Wednesday 27	Thursday 28	Friday 1	Saturday 2	
00								
00			[06:30 - 19:30]	[06:30 - 19:30]	[06:30 - 19:30]	[06:30 - 19:30]		
00								
00	Da [0]	ate Exception 8:45 - 15:15]						
00								
100								
2 ⁰⁰								
300			•					
.00			-					
+								
5 00							-	
500								

On the schedule screen, the exception is in darker color than the regular schedule.